

priority # 1

Access DB# 166579 ²

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sm J. Lee Examiner #: 176060 Date: 9-20-05
 Art Unit: 1752 Phone Number 302-7333 Serial Number: 101800, 195
 Mail Box and Bldg/Room Location: 9060 Results Format Preferred (circle): PAPER DISK E-MAIL
 (Rem.)

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Plz. See Bib. SCIENTIFIC REFERENCE BR
 Inventors (please provide full names): _____ Sci & Tech Inf. Cntr.

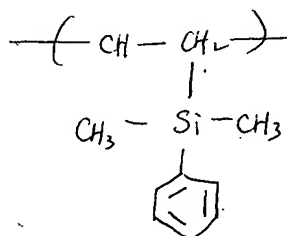
SEP 22 REC'D

Earliest Priority Filing Date: _____

Pat. & T.M. Office

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search for a resist composition containing
 Silicon-containing resist polymer having following formula



directly phenylvinyl silane monomer unit



STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>ROS</u>	NA Sequence (#) _____	STN <u>✓</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>14</u>	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr.Link _____
Date Completed: <u>10/3/05</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: _____	Fulltext _____	Sequence Systems _____
Clerical Prep Time: <u>30</u>	Patent Family _____	WWW/Internet _____
Online Time: <u>156</u>	Other _____	Other (specify) _____



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Bib Data Sheet

CONFIRMATION NO. 8744

SERIAL NUMBER 10/800,195	FILING DATE 03/12/2004 RULE	CLASS 430	GROUP ART UNIT 1752	ATTORNEY DOCKET NO. 5347.218
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APPLICANTS

Junyan Dai, Ithaca, NY;

Christopher K. Ober, Ithaca, NY;

Lin Wang, Baton Rouge, LA; Franco Cerrina, Madison, WI;

Paul Nealey, Madison, WI;

** CONTINUING DATA *****

This appln claims benefit of 60/454,062 03/12/2003

SJL

** FOREIGN APPLICATIONS *****

None SJL

IF REQUIRED, FOREIGN FILING LICENSE GRANTED

** 05/28/2004

Foreign Priority claimed <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	STATE OR COUNTRY NY	SHEETS DRAWING 10	TOTAL CLAIMS 64	INDEPENDENT CLAIMS 8
35 USC 119 (a-d) conditions met <input type="checkbox"/> yes <input checked="" type="checkbox"/> no Met after Allowance Verified and Acknowledged Examiner's Signature <i>[Signature]</i> Initials SJL				

ADDRESS
 20792
 MYERS BIGEL SIBLEY & SAJOVEC
 PO BOX 37428
 RALEIGH, NC
 27627

TITLE

Organoelement resists for EUV lithography and methods of making the same

FILING FEE

FEES: Authority has been given in Paper
 No. _____ to charge/credit DEPOSIT ACCOUNT

<input type="checkbox"/> All Fees
<input type="checkbox"/> 1.16 Fees (Filing)
<input type="checkbox"/> 1.17 Fees (Processing Ext. of time)



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- I am an examiner in Workgroup: Example: 1713
- Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

- Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

=> file reg

FILE 'REGISTRY' ENTERED AT 15:35:29 ON 03 OCT 2005
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FILE 'REGISTRY' ENTERED AT 13:19:10 ON 03 OCT 2005

L24 18 SEA ABB=ON PLU=ON 1125-26-4/CRN
D SCAN
L25 11 SEA ABB=ON PLU=ON 97822-60-1/CRN
L26 29 SEA ABB=ON PLU=ON L24 OR L25
L27 29 POLYLINK L26

FILE 'HCAPLUS' ENTERED AT 14:31:22 ON 03 OCT 2005

L35 1534659 SEA ABB=ON PLU=ON (RESIST? OR LITHOG?)
L36 22 SEA ABB=ON PLU=ON L27 AND L35

FILE 'REGISTRY' ENTERED AT 15:03:42 ON 03 OCT 2005

D SAV
SAV L27 LEE195B/A

FILE 'REGISTRY' ENTERED AT 15:35:29 ON 03 OCT 2005

=> d l27 que stat

L24 18 SEA FILE=REGISTRY ABB=ON PLU=ON 1125-26-4/CRN
L25 11 SEA FILE=REGISTRY ABB=ON PLU=ON 97822-60-1/CRN
L26 29 SEA FILE=REGISTRY ABB=ON PLU=ON L24 OR L25
L27 29 SEA FILE=REGISTRY POLYLINK L26

=> file hcaplus

FILE 'HCAPLUS' ENTERED AT 15:36:40 ON 03 OCT 2005
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=> d l36 1-22 cbib abs hitstr hitind

L36 ANSWER 1 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
2004:1036532 Document No. 142:45894 Resists for EUV
lithography comprising silicon and boron-containing
polymers. Dai, Junyan; Ober, Christopher K.; Wang, Lin; Cerrina,
Franco; Nealey, Paul (USA). U.S. Pat. Appl. Publ. US 2004241574 A1
20041202, 24 pp. (English). CODEN: USXXCO. APPLICATION: US
2004-800195 20040312. PRIORITY: US 2003-PV454062 20030312.
AB Resist compns. contg. silicon, boron, or both silicon and
boron may be used with ultra-violet lithog. processes and
extreme ultra-violet (EUV) lithog. processes to increase
the reactive ion etch resistance of the resist
compns., improve transmission of the resist materials, and
to dope substrates.
IT 97822-61-2P 557099-43-1P,
Dimethylphenylvinylsilane-isoprene block copolymer
803688-07-5P, Isoprene-trimethylsilylstyrene block copolymer

PRE-APP.

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (resists for EUV lithog. comprising silicon
 and boron-contg. polymers)

RN 97822-61-2 HCAPLUS

CN Silane, (ethenylphenyl)trimethyl-, polymer with
 (chloromethyl)ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

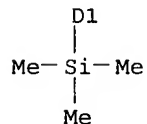
CRN 97822-60-1

CMF C11 H16 Si

CCI IDS



D1-CH=CH₂



CM 2

CRN 30030-25-2

CMF C9 H9 Cl

CCI IDS



D1-CH₂-Cl

D1-CH=CH₂

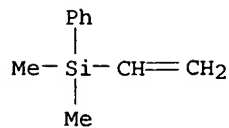
RN 557099-43-1 HCAPLUS

CN Silane, ethenyldimethylphenyl-, polymer with 2-methyl-1,3-butadiene,
 block (9CI) (CA INDEX NAME)

CM 1

CRN 1125-26-4

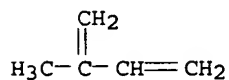
CMF C10 H14 Si



CM 2

CRN 78-79-5

CMF C5 H8



RN 803688-07-5 HCAPLUS

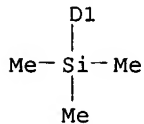
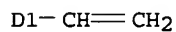
CN Silane, (ethenylphenyl)trimethyl-, polymer with 2-methyl-1,3-butadiene, block (9CI) (CA INDEX NAME)

CM 1

CRN 97822-60-1

CMF C11 H16 Si

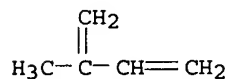
CCI IDS



CM 2

CRN 78-79-5

CMF C5 H8



IT 803688-09-7P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (resists for EUV lithog. comprising silicon and boron-contg. polymers)

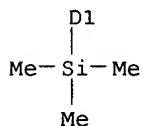
RN 803688-09-7 HCAPLUS
 CN Phenol, ethenyl-, polymer with (ethenylphenyl)trimethylsilane (9CI)
 (CA INDEX NAME)

CM 1

CRN 97822-60-1
 CMF C11 H16 Si
 CCI IDS



D1-CH=CH₂



CM 2

CRN 31257-96-2
 CMF C8 H8 O
 CCI IDS



D1-OH

D1-CH=CH₂

IC ICM G03C001-76
 INCL 430270100
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 38
 ST resist EUV lithog silicon boron polymer contg
 IT 623-47-2, Ethyl propiolate 17702-41-9, Decaborane
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of resists for EUV lithog. comprising
 silicon and boron-contg. polymers)
 IT 18178-04-6P 51999-28-1P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (prepn. of resists for EUV lithog. comprising
 silicon and boron-contg. polymers)
 IT 97822-61-2P 105729-79-1DP, Isoprene-styrene block

copolymer, reaction products with alkylsilanes, alkylphenylsilanes and borane derivs. 557099-43-1P, Dimethylphenylvinylsilane-isoprene block copolymer 803688-07-5P, Isoprene-trimethylsilylstyrene block copolymer 803688-08-6P
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(resists for EUV lithog. comprising silicon and boron-contg. polymers)

IT 766-77-8DP, Dimethylphenylsilane, reaction products with isoprene-styrene copolymer 12076-99-2DP, reaction products with isoprene-styrene block copolymer 51458-06-1DP, Dimesitylborane, reaction products with isoprene-styrene copolymer 803688-09-7P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(resists for EUV lithog. comprising silicon and boron-contg. polymers)

L36 ANSWER 2 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

2002:799485 Document No. 139:108560 Organoelement resists for EUV lithography. Dai, Junyan; Ober, Christopher Kemper; Wang, Lin; Cerrina, Franco; Nealey, Paul F. (Mater. Sci. Eng., Cornell Univ., Ithaca, NY, 14853, USA). Proceedings of SPIE-The International Society for Optical Engineering, 4690(Pt. 2, Advances in Resist Technology and Processing IX), 1193-1202 (English) 2002. CODEN: PSISDG. ISSN: 0277-786X. Publisher: SPIE-The International Society for Optical Engineering.

AB Extreme-UV (EUV) lithog. is perhaps the most promising of the NGL technologies for sub-100 nm resoin. To address needs in this area, the authors designed and synthesized several types of organo-element resists using only low absorbing elements, including H, C, Si and B. One category is based on silicon-contg. block and random polymers. They show high transparency according to theor. simulations and have high oxygen reactive ion etch resistances compared to Novolak resins. In a preliminary study, the authors were able to image these polymers to 180 nm line/space patterns using EUV exposure. A second type of EUV transparent resist platform involves boron-contg. polymers. Carborane carboxylic acid was attached to a copolymer backbone to introduce boron atoms with controlled attachment level. It was found that incorporation of a small amt. of B provides remarkably high oxygen etch resistance.

IT 557099-43-1P, Dimethylphenylvinylsilane-isoprene block copolymer

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(synthesis and etch resistance of silicon-contg. block and random polymers and boron-contg. polymers for extreme-UV lithog. resist application)

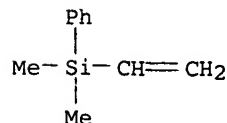
RN 557099-43-1 HCAPLUS

CN Silane, ethenyldimethylphenyl-, polymer with 2-methyl-1,3-butadiene, block (9CI) (CA INDEX NAME)

CM 1

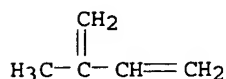
CRN 1125-26-4

CMF C10 H14 Si



*Pub. date:
July 2002.
same Inventive
entry*

CM 2

CRN 78-79-5
CMF C5 H8

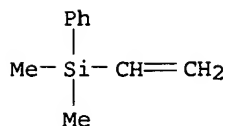
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST extreme UV lithog photoresist silicon boron contg polymer
- IT Polymers, properties
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (block; synthesis and lithog. properties of silicon-contg. block and random polymers and boron-contg. polymers for extreme-UV lithog. resist application)
- IT X-ray resists
 (design and properties of silicon-contg. block and random polymers and boron-contg. polymers for oxygen etch resistant resists for extreme-UV lithog. in relation to)
- IT Negative photoresists
 (extreme-UV; design and lithog. properties of silicon-contg. block and random polymers and boron-contg. polymers for oxygen etch resistant resists for extreme-UV lithog.)
- IT Photoresists
 (extreme-UV; design and properties of silicon-contg. block and random polymers and boron-contg. polymers for oxygen etch resistant resists for extreme-UV lithog.)
- IT Optical transmission
 (extreme-UV; synthesis and lithog. properties of silicon-contg. block and random polymers and boron-contg. polymers for extreme-UV lithog. resist application)
- IT Etching
 (plasma, resistance; synthesis and lithog. properties of silicon-contg. block and random polymers and boron-contg. polymers for extreme-UV lithog. resist application)
- IT Hydroboration
 Hydrosilylation
 Polymer morphology
 (synthesis and lithog. properties of silicon-contg. block and random polymers and boron-contg. polymers for extreme-UV lithog. resist application)
- IT 557099-49-7
 RL: PRP (Properties)
 (comparison compd.; synthesis and lithog. properties of silicon-contg. block and random polymers and boron-contg. polymers for extreme-UV lithog. resist application)
- IT 7782-44-7, Oxygen, uses
 RL: NUU (Other use, unclassified); USES (Uses)
 (plasma etch; synthesis and lithog. properties of silicon-contg. block and random polymers and boron-contg. polymers for extreme-UV lithog. resist application)

- application)
- IT 557099-43-1P, Dimethylphenylvinylsilane-isoprene block copolymer
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (synthesis and etch resistance of silicon-contg. block and random polymers and boron-contg. polymers for extreme-UV lithog. resist application)
- IT 617-86-7DP, Triethylsilane, reaction product with isoprene-styrene block copolymer 758-21-4DP, Dimethylethylsilane, reaction product with isoprene-styrene block copolymer 766-77-8DP, Dimethylphenylsilane, reaction product with isoprene-styrene block copolymer 51458-06-1DP, Dimesitylborane, reaction product with hydrolyzed isoprene-styrene block copolymer 105729-79-1DP, Isoprene-styrene block copolymer, hydrosilylation and hydroboration products 122551-15-9P, 4-Pentamethyldisilylstyrene-p-chloromethylstyrene copolymer 557099-44-2P, p-Trimethylsilylstyrene-isoprene block copolymer 557099-45-3P, p-Trimethylsilylstyrene-p-chloromethylstyrene copolymer
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (synthesis and lithog. properties of silicon-contg. block and random polymers and boron-contg. polymers for extreme-UV lithog. resist application)
- IT 1009-43-4P, p-Trimethylsilylstyrene 114442-01-2P, 4-Pentamethyldisilylstyrene
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (synthesis of silicon-contg. block and random polymers and boron-contg. polymers for resists for extreme-UV lithog.)
- L36 ANSWER 3 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
- 1997:650792 Document No. 127:319416 Manufacture of polysilane block copolymers by electrochemical polymerization. Nishida, Ryoichi; Kawasaki, Shinichi; Murase, Hiroaki (Osaka Gas Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 09255785 A2 19970930 Heisei, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-72332 19960327.
- AB The title method involves electrochem. polymn. using Mg (alloy) anodes, Li salt supporting electrodes, and nonprotonic solvents to give polymers bearing the units of (A) (SiR₂)_n (R = H, alkyl, aryl, alkoxy, silyl, amino) and (CH₂CR₁R₂)_l [I; R₁, R₂ = H, (un)satd. alkyl, aryl, ester, silyl, ether, amino, CO₂H, NO₂, cyano, halo; l, n = 1-10,000] derived from X(SiR₂)_mX (II; m = 1-3) and H₂C:CR₁R₂ (III), resp.; (B) (RSi)_p (p = 10-10,000) and I derived from RSiX₃ (IV) and III; (C) (SiR₂)_r(SiR)_s(Si)_t (r + s + t = 10-10,000) and I derived from II, III, IV, and SiX₄. Thus, 10 mmol II (R = Me; X = Cl, m = 1) and 2 mmol styrene were electrochem. polymd. at room temp. and 1.8 F/mol (based on Cl in II) for 34 h in 15 mL THF contg. 0.4 g LiCl using a Mg anode and a SUS 304 cathode to give a block copolymer with wt.-av. mol. wt. 12,800, which was dissolved in PhMe and applied on an Al substrate to give a film showing high mech. strength and abrasion resistance.
- IT 197797-16-3P
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
 (manuf. of polysilane block copolymers from dihalosilanes and vinyl monomers by electrochem. polymn.)
- RN 197797-16-3 HCAPLUS
- CN Silane, dichloromethylphenyl-, polymer with ethenyldimethylphenylsilane, block (9CI) (CA INDEX NAME)

CM 1

CRN 1125-26-4

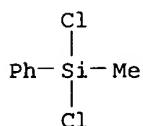
CMF C10 H14 Si



CM 2

CRN 149-74-6

CMF C7 H8 Cl2 Si



IC ICM C08G077-60

ICS C25B003-02

CC 35-7 (Chemistry of Synthetic High Polymers)

ST polysilane prepn electrochem polymn magnesium anode; halosilane
vinyl monomer block polysilane; mech strength abrasion
resistance block polysilane

IT Abrasion-resistant materials

(manuf. of polysilane block copolymers from dihalosilanes and
vinyl monomers by electrochem. polymn.)

IT 143256-59-1P, Dichloromethylphenylsilane-styrene block copolymer
143256-60-4P, Dichloromethylphenylsilane- α -methylstyrene block
copolymer 143256-63-7P, Cyclohexyldichloromethylsilane-styrene
block copolymer 143292-88-0P, Dichloromethylphenylsilane-methyl
methacrylate block copolymer 185693-22-5P,
Dichlorohexylmethylsilane-styrene block copolymer 185693-23-6P,
Dichloromethoxymethylsilane-styrene block copolymer 185693-25-8P,
Dichlorophenyl(trimethylsilyl)silane-styrene block copolymer
185693-26-9P, Phenyltrichlorosilane-styrene block copolymer
185693-27-0P 197797-11-8P, p-Anisyldichloromethylsilane-styrene
block copolymer 197797-12-9P, Dichloromethylphenylsilane-p-
methylstyrene block copolymer 197797-13-0P, Butyl
acrylate-dichloromethylphenylsilane block copolymer 197797-14-1P,
Dichloromethylphenylsilane-dodecyl vinyl ether block copolymer
197797-15-2P, Dichloromethylphenylsilane-methyltrivinylsilane block
copolymer 197797-16-3P 197797-17-4P,
1,4-Cyclohexanedimethanol divinyl ether-dichloromethylphenylsilane
block copolymer 197797-18-5P, Dichloromethylphenylsilane-vinyl
acetate block copolymer 197797-19-6P, Dichloromethylphenylsilane-
isoprene block copolymer 197797-20-9P 197797-21-0P,
Dichloromethylphenylsilane-N-vinylcarbazole block copolymer
197797-22-1P, Dichloromethylphenylsilane-4-vinylpyridine block
copolymer 197797-23-2P, Dichloromethylphenylsilane-methyl
methacrylate-styrene block copolymer

RL: IMF (Industrial manufacture); PRP (Properties); PREP
(Preparation)(manuf. of polysilane block copolymers from dihalosilanes and
vinyl monomers by electrochem. polymn.)

L36 ANSWER 4 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

1995:557390 Document No. 122:299152 manufacture of fluorosilicone
contact lenses having imp[roved oxygen permeability and stain-

resistance. Kama, Naotaka; Osanawa, Myuki; Tarumi, Yasuro (Menicon Co Ltd, Japan; Shinetsu Chemical Industry Co., Ltd.). Jpn. Kokai Tokkyo Koho JP 07064029 A2 19950310 Heisei, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-207838 19930823.

AB Contact lenses having improved oxygen permeability and stain-resistance are prepd. with copolymers contg. [(Me)₃SiO]₃SiCH₂CH₂(CH₂)_nC[CF₃]₂OCOCRI:CH₂ [R₁ = H, Me; n = 0 or 1] as polymerizable components. Thus, the polymerizable component was treated with e.g. Me methacrylate and ethylene glycol dimethacrylate and the reaction product was made into contact lenses.

IT 163120-87-4P
RL: DEV (Device component use); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(manuf. of fluorosilicone contact lenses with improved high oxygen permeability and stain-resistance)

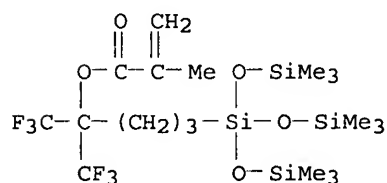
RN 163120-87-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with 1,1-bis(trifluoromethyl)-4-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]butyl 2-methyl-2-propenoate, (ethenylphenyl)trimethylsilane and 3-[3,3,3-trimethyl-1,1-bis[(trimethylsilyl)oxy]disiloxanyl]propyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 153146-73-7

CMF C19 H38 F6 O5 Si4



CM 2

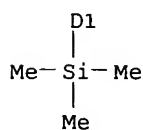
CRN 97822-60-1

CMF C11 H16 Si

CCI IDS

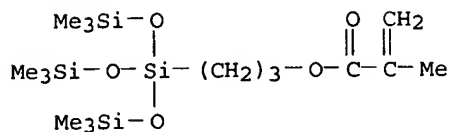


D1-CH=CH₂



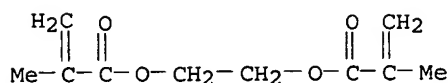
CM 3

CRN 17096-07-0
CMF C16 H38 O5. Si4



CM 4

CRN 97-90-5
CMF C10 H14 O4



IC ICM G02C007-04

ICS C08F030-08

CC 63-7 (Pharmaceuticals)

IT Lenses

(contact, manuf. of fluorosilicone contact lenses with improved high oxygen permeability and stain-resistance)

IT Siloxanes and Silicones, biological studies

RL: DEV (Device component use); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(fluoro, copolymers contg.; manuf. of fluorosilicone contact lenses with improved high oxygen permeability and stain-resistance)

IT 163120-84-1P 163120-85-2P 163120-86-3P 163120-87-4P

163120-88-5P 163120-89-6P 163120-90-9P

RL: DEV (Device component use); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(manuf. of fluorosilicone contact lenses with improved high oxygen permeability and stain-resistance)

IT 7782-44-7, Oxygen, properties

RL: PRP (Properties)

(permeability; manuf. of fluorosilicone contact lenses with improved high oxygen permeability and stain-resistance)

L36 ANSWER 5 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

1991:690955 Document No. 115:290955 Tert-Butoxycarbonyl maleimide copolymers for thermally stable deep UV resists by

chemical amplification. Ahn, Kwang Duk; Koo, Deok Il; Kim, Seong Ju (Funct. Polym. Lab., Korea Inst. Sci. Technol., Seoul, 130-650, S. Korea). Journal of Photopolymer Science and Technology, 4(3), 433-43 (English) 1991. CODEN: JSTEEW. ISSN: 0914-9244.

AB Three t-BOCMI [N-(tert-butyloxycarbonyl)maleimide] copolymers, P(t-BOCMI/St), P(t-BOCMI/SiSt) and P(t-BOCMI/t-BOCSt) and N-tert-butyloxycarbonyloxyphenylmaleimide copolymer, P(t-BOCPMI/SiSt), where St = styrene and SiSt = trimethylsilylstyrene, exhibited low absorbance at 248 nm in films of <0.2 μm thickness, high sensitivity, high thermal stability of generated image patterns above 200°, and high oxygen RIE (reactive ion etch) resistance. Deprotection of the t-BOC

group occurs at 150-200°, and eventual glass transition temp. Tg's are very high up to 250°. The polymers were compounded with triphenylsulfonium hexafluoroantimonate as photoacid generator to give resists named MIST, MISIX, BMIST, and PMISIX, resp. The resists were spin-coated, deep UV exposed and PEB (post exposure baked) at 100°. MIST and BMIST gave submicron pos. tone images with aq. alk. development in high sensitivity by chem. amplification. MISIX and PMISIX only generated neg. tone images with org. development.

IT 137828-74-1 137853-76-0

RL: USES (Uses)

(submicron lithog. resist compn. contg. photoacid generator and)

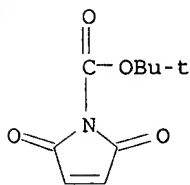
RN 137828-74-1 HCAPLUS

CN 1H-Pyrrole-1-carboxylic acid, 2,5-dihydro-2,5-dioxo-, 1,1-dimethylethyl ester, polymer with (ethenylphenyl)trimethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 114650-82-7

CMF C9 H11 N O4

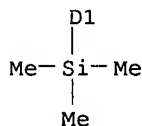
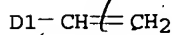
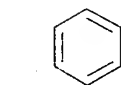


CM 2

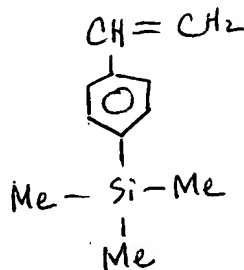
CRN 97822-60-1

CMF C11 H16 Si

CCI IDS



=



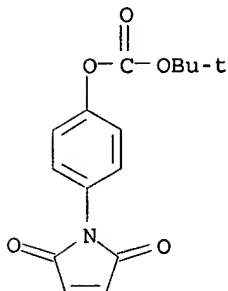
(present silylstyrene)

RN 137853-76-0 HCAPLUS

CN Carbonic acid, 4-(2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl)phenyl 1,1-dimethylethyl ester, polymer with (ethenylphenyl)trimethylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 104469-25-2
CMF C15 H15 N O5

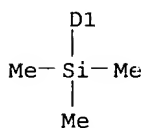


CM 2

CRN 97822-60-1
CMF C11 H16 Si
CCI IDS



D1-CH=CH₂

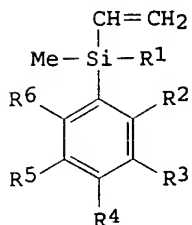


- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST submicron lithog butoxycarbonyl maleimide polymer; chem amplification resist butoxycarbonyl maleimide polymer
- IT **Resists**
(photo-, polymeric, contg. butoxycarbonyl deprotection groups, for submicron lithog.)
- IT **Lithography**
(submicron, photoacid generators for, polymers contg. butoxycarbonyl groups as)
- IT 57840-38-7, Triphenylsulfonium hexafluoroantimonate
RL: USES (Uses)
(submicron lithog. photoresist compn. contg. photoacid generator of)
- IT 114650-83-8, N-(tert-Butoxycarbonyl)maleimide-styrene polymer
137828-71-8 137828-74-1 137853-76-0
RL: USES (Uses)
(submicron lithog. resist compn. contg. photoacid generator and)

use 14/22
instead

polymers. Takagi, Mikio; Oku, Junichi; Hasegawa, Takashi; Asami, Ryuzo (Japan Synthetic Rubber Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 02263808 A2 19901026 Heisei, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-84702 19890405.

GI



I

AB Polymers useful for manuf. of membranes, rubbers, electronic materials, and biomedical materials are prepd. by polymn. of I (R1 = C1-20 alkyl, C6-20 aryl; R2-6 = H, Me, Et). Thus, polymn. of 18.5 mmol dimethylphenylvinylsilane by 0.37 mmol BuLi and 0.39 mmol N,N,N',N'-tetramethylethylenediamine in 30 mL cyclohexane at 25° for 48 h gave a polymer having decompn. temp. 420°, wt.-av. and no.-av. mol.-wt. 8300 and 6500, resp.

IT 26744-16-1P

RL: PREP (Preparation)
(prepn. of, heat-resistant)

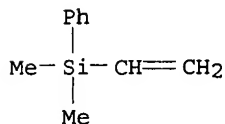
RN 26744-16-1 HCAPLUS

CN Silane, ethenyldimethylphenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1125-26-4

CMF C10 H14 Si



IC ICM C08F030-08

ICS C08F004-46; C08G077-60

CC 35-4 (Chemistry of Synthetic High Polymers)

IT 26744-16-1P

RL: PREP (Preparation)
(prepn. of, heat-resistant)

L36 ANSWER 7 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

1990:207640 Document No. 112:207640 Effects of ion bombardment in oxygen plasma etching. Hartney, M. A.; Greene, W. M.; Soane, D. S.; Hess, D. W. (Dep. Chem. Eng., Univ. California, Berkeley, CA, 94720, USA). Proceedings of SPIE-The International Society for Optical Engineering, 920(Adv. Resist Technol. Process. 5), 108-19 (English) 1988. CODEN: PSISDG. ISSN: 0277-786X.

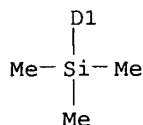
AB The relative roles of ion bombardment and O radicals were examd. for O plasma etching of common photoresists and Si-contg. resists. The degree of O disocn. in the plasma was measured as a function of power and pressure in the reactor. Etch rates for hydrocarbon resists increased with pressure over the range studied, although the ion bombardment energy and the flux

of O radicals decreased. This indicated that the supply of neutral O mols. is the limiting factor in the range of operating conditions (20-80 millitorr) typically found in reactive ion etching. The role of ion induced damage was small for std. **resist** etching, but it helped in the formation of an oxide layer during the etching of Si-contg. materials.

IT 104521-87-1
 RL: USES (Uses)
 (etching of **resist** film of, using oxygen plasma, ion bombardment effects in)
 RN 104521-87-1 HCAPLUS
 CN Silane, (ethenylphenyl)trimethyl-, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 97822-60-1
 CMF C11 H16 Si
 CCI IDS

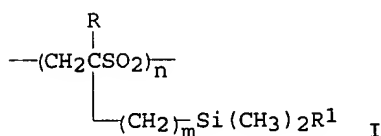


D1-CH=CH₂

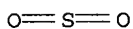


CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 IT Polyimides, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (plasma etching of **lithog. resists** of, effect of oxygen radicals and ion bombardment on)
 IT **Resists**
 (silicon-contg., oxygen plasma etching of, effect of oxygen radicals and ion bombardment on)
 IT Phenolic resins, uses and miscellaneous
 RL: USES (Uses)
 (novolak, etching of **resist** film of, using oxygen plasma, effects of ion bombardment in)
 IT **Resists**
 (photo-, etching of, by oxygen plasma, effects of ion bombardment and radicals in)
 IT 9003-53-6 104521-87-1
 RL: USES (Uses)
 (etching of **resist** film of, using oxygen plasma, ion bombardment effects in)
 IT 7782-44-7D, Oxygen, ions, uses and miscellaneous
 RL: USES (Uses)
 (in etching of photoresists and silicon-contg. **resists** during oxygen plasma etching)
 IT 17778-80-2, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (in etching of photoresists and silicon-contg. **resists**)

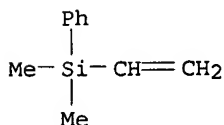
during oxygen plasma etching)
 IT 7782-44-7, Oxygen, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (plasma, etching of photoresists and silicon-contg.
 resists by, effect of ion bombardment and radicals in)
 L36 ANSWER 8 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
 1990:149068 Document No. 112:149068 Positive-working
 radiation-sensitive resist. Ban, Koji; Tanaka, Haruyori
 (Nippon Telegraph and Telephone Corp., Japan). Jpn. Kokai Tokkyo
 Koho JP 01187545 A2 19890726 Heisei, 5 pp. (Japanese). CODEN:
 JKXXAF. APPLICATION: JP 1988-10739 19880122.
 GI



AB A pos-working resist material with high sensitivity to
 high-energy beams and having high resistance to O plasma
 etching is a polysulfone having the general formula I [R = H, alkyl;
 R1 = tert-Bu, Ph; n ≥ 10; m = 0-5].
 IT 125920-56-1
 RL: USES (Uses)
 (as radiation-sensitive pos.-working resist)
 RN 125920-56-1 HCAPLUS
 CN Silane, ethenyldimethylphenyl-, polymer with sulfur dioxide (9CI)
 (CA INDEX NAME)
 CM 1
 CRN 7446-09-5
 CMF O2 S



CM 2
 CRN 1125-26-4
 CMF C10 H14 Si



IC ICM G03C001-72
 ICS H01L021-30
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 76
 ST polysulfone radiation sensitive resist

IT Polysulfones, uses and miscellaneous
 RL: USES (Uses)
 (pos.-type radiation-sensitive **resists** from)

IT **Resists**
 (radiation-sensitive, polysulfones as)

IT 125920-56-1 125920-57-2 125920-58-3 125920-60-7
 125920-61-8 125920-63-0 125920-64-1 125920-66-3 125920-68-5
 125920-70-9 125920-72-1 125920-74-3
 RL: USES (Uses)
 (as radiation-sensitive pos.-working **resist**)

L36 ANSWER 9 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
 1989:467742 Document No. 111:67742 Oxide formation during plasma
 etching of silicon-containing **resists**. Hartney, M. A.;
 Chiang, J. N.; Hess, D. W.; Soane, D. S. (Dep. Chem. Eng., Univ.
 California, Berkeley, CA, 94720, USA). Applied Physics Letters,
 54(16), 1510-12 (English) 1989. CODEN: APPLAB. ISSN: 0003-6951.

AB Surface modification during O plasma etching of
 polytrimethylsilylmethylstyrene **resists** was monitored
 using XPS. Plasma exposure converted the Si present in the polymers
 to an oxidized surface region which prevented further chem. etching.
 Conversion was more rapid and more complete when etching under
 conditions where higher energy ion bombardment occurred.
 Polysilylmethylstyrene reached a steady-state oxide thickness
 between 3.4 and 5.8 nm, depending on etching conditions. A
 copolymer of this material with chloromethylstyrene showed a
 comparable thickness when etched at high ion energies, but did not
 reach a steady state when etched at conditions where the av. ion
 energy was <110 eV.

IT 97822-61-2 104521-87-1
 RL: USES (Uses)
 (**resist** from, oxygen plasma etching of)

RN 97822-61-2 HCAPLUS

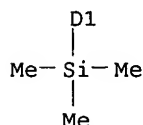
CN Silane, (ethenylphenyl)trimethyl-, polymer with
 (chloromethyl)ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 97822-60-1
 CMF C11 H16 Si
 CCI IDS



D1-CH=CH₂



CM 2

CRN 30030-25-2
 CMF C9 H9 Cl

*Use 10/22
 instead*

CCI IDS



D1-CH₂-Cl

D1-CH=CH₂

RN 104521-87-1 HCAPLUS
CN Silane, (ethenylphenyl)trimethyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

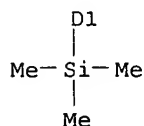
CRN 97822-60-1

CMF C11 H16 Si

CCI IDS



D1-CH=CH₂



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 66, 76
ST oxidn polysilylmethylstyrene **resist**; plasma etching polysilylmethylstyrene **resist**; chloromethylstyrene copolymer **resist**; oxygen plasma etching **resist**
IT **Resists**
(polytrimethylsilylmethylstyrene, oxygen plasma etching of)
IT Sputtering
(etching, of polytrimethylsilylmethylstyrene **resists** in oxygen)
IT Anodization
(plasma, of polytrimethylsilylmethylstyrene **resists** in oxygen)
IT Etching
(sputter, of polytrimethylsilylmethylstyrene **resists** in oxygen)
IT 7782-44-7, Oxygen, uses and miscellaneous
RL: PRP (Properties)
(etching of polytrimethylsilylmethylstyrene **resists** in plasma of)

IT 97822-61-2 104521-87-1

RL: USES (Uses)

(resist from, oxygen plasma etching of)

L36 ANSWER 10 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

1989:66919 Document No. 110:66919 Silicon-containing

radiation sensitive resist for fabrication of

semiconductor devices. Leveriza, Carina T.; Morgan, Russell A. (Syn Labs, Inc., USA). U.S. US 4764247 A 19880816, 5 pp. (English).

CODEN: USXXAM. APPLICATION: US 1987-27422 19870318.

AB A radiation-sensitive resist which provides resist patterns with reduced erosion and improved plasma resiliency and is suited for fabrication of semiconductor devices is comprised of a copolymer prepd. from a halomethylstyrene and an alkylsilylstyrene. A lithog. process for forming a resist pattern is comprised of the steps: (1) applying a layer of the resist onto a substrate; (2) irradiating the resist layer to x-rays or electron beams to form a neg. image; (3) developing the resist with a solvent; and (4) etching the resist pattern in a suitable plasma.

IT 97822-61-2

RL: USES (Uses)

(neg.-working radiation-sensitive resists from, for fabrication of semiconductor devices)

RN 97822-61-2 HCAPLUS

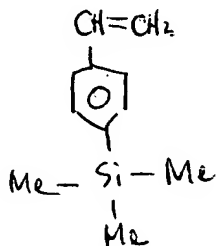
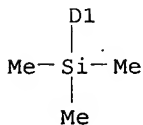
CN Silane (ethenylphenyl)trimethyl-, polymer with (chloromethyl)ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 97822-60-1

CMF C11 H16 Si

CCI IDS

D1-CH=CH₂

CM 2

CRN 30030-25-2

CMF C9 H9 Cl

CCI IDS



D1-CH₂-Cl

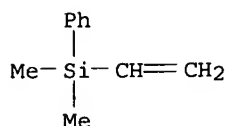
D1-CH=CH₂

- IC ICM B44C001-22
ICS B29C037-00; C03C015-00; C03C025-06
INCL 156643000
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76
ST radiation **resist** halostyrene alkylsilylstyrene copolymer; electron **resist** halostyrene alkylsilylstyrene copolymer; x ray **resist** halostyrene alkylsilylstyrene copolymer; neg **resist** halostyrene alkylsilylstyrene copolymer
IT **Resists**
(electron-beam, neg., from halomethylstyrene-alkylsilylstyrene copolymers)
IT **Resists**
(photo-, neg., from halomethylstyrene-alkylsilylstyrene copolymers)
IT **Resists**
(x-ray, neg., from halomethylstyrene-alkylsilylstyrene copolymers)
IT 67-63-0, Isopropyl alcohol, uses and miscellaneous
RL: USES (Uses)
(developing solns. from iso-Bu Me ketone and, for neg.-working radiation-sensitive **resists** from halomethylstyrene-alkylsilylstyrene copolymer for semiconductor device prepn.)
IT 108-10-1, Isobutyl methyl ketone
RL: USES (Uses)
(developing solns. from iso-Pr alc. and, for neg.-working radiation-sensitive **resists** from halomethylstyrene-alkylsilylstyrene copolymers for semiconductor device prepn.)
IT 97822-61-2
RL: USES (Uses)
(neg.-working radiation-sensitive **resists** from, for fabrication of semiconductor devices)
- L36 ANSWER 11 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
1989:48602 Document No. 110:48602 Poly(triorganovinylsilanes) for optical disk substrates. Nagura, Shigehiro; Yamamoto, Akira (Shin-Etsu Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 63223012 A2 19880916 Showa, 3 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1987-56492 19870313.
AB Substrates for optical disks are composed mainly of a polymer of the formula [CH₂CH(SiR₁R₂R₃)]_n (R₁-R₃ = C₁-6 hydrocarbyl; n = ≥1000). Thus, poly(trimethylvinylsilane) (d.p. 8000) was pelletized and injection molded to give a substrate for an optical disk with transmittance 91%, wt. increase after 4 days in H₂O at 25° of 0.05%, and heat distortion temp. of 155°, vs., 92, 0.30, and 100, resp., for poly(Me methacrylate).
IT 26744-16-1
RL: USES (Uses)
(optical disk substrates, transparent, heat- and water-resistant)

RN 26744-16-1 HCAPLUS
 CN Silane, ethenyldimethylphenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1125-26-4
 CMF C10 H14 Si



IC ICM C08F030-08
 ICS G11B007-24
 CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 ST optical disk substrate vinylsilane polymer; polyvinylsilane optical disk substrate; heat **resistance** optical disk polyvinylsilane; transparent optical disk polyvinylsilane; water **resistance** optical disk polyvinylsilane
 IT Vinyl compounds, polymers
 RL: USES (Uses)
 (silyl group-contg., transparent and **resistant** to heat and water, for optical disk substrates)
 IT Recording apparatus
 (optical disks, substrates for, transparent poly(vinylsilanes) with **resistance** to heat and water for)
 IT 25036-32-2, Poly(trimethylvinylsilane) 26744-16-1 101901-97-7
 RL: USES (Uses)
 (optical disk substrates, transparent, heat- and water-**resistant**)

L36 ANSWER 12 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

1988:631734 Document No. 109:231734 Preparation of high-molecular-weight transparent oxygen-permeable triorgano vinylsilane copolymers. Sakurada, Toyohisa; Takamizawa, Minoru; Mayuzumi, Tetsuya; Yamamoto, Akira; Nagura, Shigehiro (Shin-Etsu Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 63035614 A2 19880216 Showa, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-179574 19860730.

AB Title polymers with d.p. ≥ 5000 are prepd. by copolymn. of 99.99-99.50 mol% $\text{CH}_2:\text{CHSiR}_1\text{R}_2\text{R}_3$ ($\text{R}_1, \text{R}_2, \text{R}_3 = \text{C}_1\text{-6 hydrocarbyl}$) and 0.01-0.50 mol% $(\text{CH}_2:\text{CH})_2\text{SiR}_4\text{R}_5$ ($\text{R}_4, \text{R}_5 = \text{C}_1\text{-6 hydrocarbyl}$). Thus, 0.078 mL 15% hexane soln. of BuLi, 100 g $\text{CH}_2:\text{CHSiMe}_3$ (I), and 0.22 g $(\text{CH}_2:\text{CH})_2\text{SiMe}_2$ (II), were mixed 48 h at 50° under N to give 91 g I-II copolymer (wt.-av. mol. wt. 1,500,000, av. d.p. 15,000), which was dissolved in MePh, cast, and dried to form a transparent colorless film showing O permeability $3.9 + 10^{-9} \text{ cm}^3$ (STP)-cm/cm²-s-cmHg (at 25°), vs. $4.0 + 10^{-9}$ for I homopolymer (wt. av. mo. wt. 420,000, av. d.p. 4200) film. I-II copolymer film showed 95.5% visible light transmission, similar to I homopolymer film.

IT 117674-35-8P, Dimethyldivinylsilane-dimethylphenylvinylsilane copolymer
 RL: PREP (Preparation)

(prepn. of, high-mol.-wt., transparent, heat-**resistant**, oxygen-permeable)

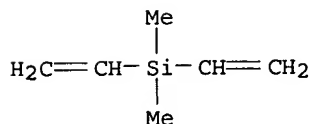
RN 117674-35-8 HCAPLUS

CN Silane, diethenyldimethyl-, polymer with ethenyldimethylphenylsilane (9CI) (CA INDEX NAME)

CM 1

CRN 10519-87-6

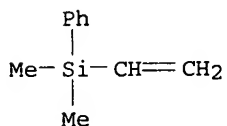
CMF C6 H12 Si



CM 2

CRN 1125-26-4

CMF C10 H14 Si



IC ICM C08F230-08

CC 35-4 (Chemistry of Synthetic High Polymers)

IT Transparent materials

(vinylsilane copolymers with high mol.wt., oxygen-permeable, heat-resistant)

IT Heat-resistant materials

(vinylsilane copolymers with high mol.wt., oxygen-permeable, transparent)

IT Membranes

(permselective, oxygen-permeable, vinylsilane copolymers, with high mol. wt., transparent, heat-resistant)

IT 117674-34-7P, Dimethyldivinylsilane-trimethylvinylsilane copolymer

117674-35-8P, Dimethyldivinylsilane-

dimethylphenylvinylsilane copolymer 117674-36-9P,

Diethyldivinylsilane-dimethylpropylvinylsilane copolymer

117674-37-0P, Diethyldivinylsilane-diethylmethylvinylsilane

copolymer 117674-38-1P, Dimethyldivinylsilane-

ethylmethylvinylsilane copolymer

RL: PREP (Preparation)

(prepn. of, high-mol.-wt., transparent, heat-resistant, oxygen-permeable)

L36 ANSWER 13 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

1988:580442 Document No. 109:180442 Positive-working resist

from multicomponent crosslinking-copolymer comprising sulfur dioxide

and vinyl compound. Matsuda, Minoru; Ono, Hiroshi (Chisso Corp.,

Japan). Jpn. Kokai Tokkyo Koho JP 63000319 A2 19880105 Showa, 8 pp.

(Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-142312 19860618.

AB In the 1st invention, the title copolymer comprises 1-50 mol% SO₂

and 50-99 mol% vinyl compd. (trialkylsilylstyrene is excluded in

case of a 2-component polymer; typically, chlorostyrene,

chloromethylstyrene, acetoxystyrene, and hydroxystyrene), and the

wt. av. mol. wt. thereof is 103-106. In the 2nd invention, the

title copolymer (e.g., comprising 30-50 mol% SO₂ and 50-70 mol%

vinyl compd. and having 5 + 104-106 wt. av. mol. wt.) has

≥1 monomer units (20-49 mol%) selected from (1) aliph.

olefins and (2) ≥1 monomer units (1-30 mol%) selected from

arom. vinyl compds. or Si-contg. vinyl compds. 1-Butene, 2-Me-1-butene, and 2-Me-1-pentene are included in (1), and styrene, chlorostyrene, acetoxystyrene, hydroxystyrene, and trimethylallylsilane are included in (2). This copolymer is dry-etching **resistant**, and is useful as a pos.-working **resist** decomposable with electron and x-ray beams at high sensitivity.

IT 117137-58-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and use of, for pos.-working **resist** for
electron and x-ray beams)

RN 117137-58-3 HCAPLUS

CN Silane, (ethenylphenyl)trimethyl-, polymer with 1-butene and sulfur dioxide (9CI) (CA INDEX NAME)

CM 1

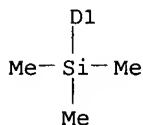
CRN 97822-60-1

CMF C11 H16 Si

CCI IDS



D1-CH=CH₂



CM 2

CRN 7446-09-5

CMF O2 S

O=S=O

CM 3

CRN 106-98-9

CMF C4 H8

H₃C-CH₂-CH=CH₂

IC ICM C08G075-22

ICS G03C001-72

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST pos working **resist** copolymer; electron beam **resist**
copolymer; x ray **resist** copolymer; sulfur dioxide vinyl

compd copolymer

IT **Resists**
 (pos.-working, for electron and x-ray beams, from copolymer comprising sulfur dioxide and vinyl compd.)

IT 117057-20-2P 117057-21-3P 117057-22-4P 117057-24-6P
 117057-25-7P 117137-58-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and use of, for pos.-working resist for electron and x-ray beams)

L36 ANSWER 14 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
 1987:626008 Document No. 107:226008 Bilayer resist
 composition. Saito, Kazumasa; Yoneda, Yasuhiro; Miyagawa, Masashi; Kawasaki, Yoko (Fujitsu Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 62133450 A2 19870616 Showa, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-274001 19851205.

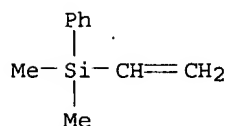
AB A bilayer resist employs as upper-layer resist a copolymer of a vinyl compd. and a vinylsilane deriv. having Si-attached Cl-3 alkyl, Ph, or H. Fine patterns with high-resoln. and O plasma resistance are obtained from the resist compn. Thus, dimethylphenylvinylsilane-Me methacrylate copolymer (mol. wt. 3500) was coated on a Si wafer and sputter-etched to show excellent O plasma resistance.

IT 30024-30-7
 RL: USES (Uses)
 (bilayer resist from, oxygen plasma resistant)

RN 30024-30-7 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with ethenyldimethylphenylsilane (9CI) (CA INDEX NAME)

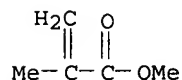
CM 1

CRN 1125-26-4
 CMF C10 H14 Si



CM 2

CRN 80-62-6
 CMF C5 H8 O2



IC ICM G03C001-71
 ICS G03C001-00

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST bilayer resist oxygen plasma resistance;
 vinylsilane methacrylate copolymer resist bilayer

IT **Resists**
 (etch, bilayer, vinylsilane copolymer for oxygen plasma-resistant)

IT 30024-30-7
 RL: USES (Uses)
 (bilayer resist from, oxygen plasma resistant
)

L36 ANSWER 15 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

1987:599809 Document No. 107:199809 Plastic optical fibers.
 Takamizawa, Minoru; Yamamoto, Akira; Nagura, Shigehiro (Shin-Etsu
 Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP
 62031808 A2 19870210 Showa, 3 pp. (Japanese). CODEN: JKXXAF.
 APPLICATION: JP 1985-170914 19850802.

AB Optical fibers with good heat resistance and low
 transmission loss contain the polysilanes [CH₂CH(SiMeRR₁)]_m (R, R₁ =
 Me, Et, Pr, Ph; m >1000) as cores and resin compns. with n lower
 than that of the core as sheaths. Thus, poly(trimethylvinylsilane)
 (mol. wt. 510,000) was extrusion coated with poly(vinylidene
 fluoride) to give 90:10 core-sheath fibers with transmission loss
 350 and 370 dB/km (660 nm) after 0 and 5 h, resp., at 120°.

IT 26744-16-1, Poly(dimethylphenylvinylsilane)
 RL: USES (Uses)
 (cores for optical fibers, heat-resistant with low
 transmission loss)

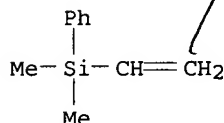
RN 26744-16-1 HCAPLUS

CN Silane, ethenyl(dimethylphenyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1125-26-4

CMF C10 H14 Si



IC ICM G02B006-10

ICA C08F030-08

CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 73

IT Optical fibers
 (vinylsilane polymer cores-poly(vinylidene fluoride) sheaths,
 heat-resistant with low transmission loss)

IT 25036-32-2, Poly(trimethylvinylsilane) 26744-16-1,
 Poly(dimethylphenylvinylsilane) 101901-97-7,
 Poly(dimethylethylvinylsilane)

RL: USES (Uses)
 (cores for optical fibers, heat-resistant with low
 transmission loss)

IT 24937-79-9, PVDF

RL: USES (Uses)
 (sheaths for optical fibers, heat-resistant with low
 transmission loss)

L36 ANSWER 16 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

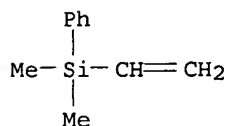
1987:587477 Document No. 107:187477 Bilayer resist
 composition. Saito, Kazumasa; Yoneda, Yasuhiro; Miyagawa, Masashi;
 Kawasaki, Yoko (Fujitsu Ltd., Japan). Jpn. Kokai Tokkyo Koho JP
 62133445 A2 19870616 Showa, 4 pp. (Japanese). CODEN: JKXXAF.
 APPLICATION: JP 1985-274002 19851205.

AB The upper-layer resist compn. for a bilayer resist
 compn. is prepd. by mixing a conventional resist with a
 poly(vinylsilane) obtained by the mol. wt.-controlled anion polymn.

→ use 14/22

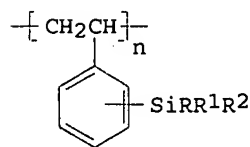
of a vinylsilane possessing Si-C1-3 alkyl, Si-phenyl, or Si-H bonds. Fine patterns with high-resoln. and O plasma-resistance are obtained from the resist compn. Thus, a mixt. of poly(dimethylphenylvinylsilane) (mol. wt. 5800), poly(hexafluorobutyl methacrylate), and FMB 110 was coated on a Si wafer and sputter-etched to show excellent O plasma resistance.

IT 26744-16-1, Dimethylphenylvinylsilane polymer
 RL: USES (Uses)
 (bilayer resist from, for oxygen plasma resistance)
 RN 26744-16-1 HCAPLUS
 CN Silane, ethenyldimethylphenyl-, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 1125-26-4
 CMF C10 H14 Si



IC ICM G03C001-00
 ICS G03C001-00; G03C001-71; G03F007-00
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 ST bilayer resist oxygen plasma resistance;
 polyvinylsilane bilayer resist etch; anion polymn
 vinylsilane resist bilayer
 IT Resists
 (etch, bilayer, poly(vinylsilane) deriv. for oxygen plasma-resistant high-resoln.)
 IT 26744-16-1, Dimethylphenylvinylsilane polymer
 RL: USES (Uses)
 (bilayer resist from, for oxygen plasma resistance)
 L36 ANSWER 17 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
 1987:449575 Document No. 107:49575 Radiation-sensitive compositions and their use. Watanabe, Fumitake (NEC Corp., Japan). Jpn. Kokai Tokkyo Koho JP 61221745 A2 19861002 Showa, 4 pp. (Japanese).
 CODEN: JKXXAF. APPLICATION: JP 1985-62418 19850327.

GI



I

AB A radiation-sensitive compn. comprises a compd. of the formula I (R-R2 = lower alkyl; n = pos. integer) and a chloromethylated styrene polymer. Fine patterns are prepd. by placing a layer of the compn. on a substrate having an org. polymer layer, irradiating with ionizing radiation, e.g., x-rays or electron beams, to form a pattern, and dry etching the org. polymer layer using the pattern as

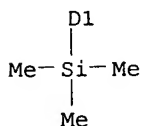
use
 4764247

a resist. The compn. shows high sensitivity to radiation and dry-etching resistance. Some 0.5 g poly(trimethylsilylstyrene) (wt.-av. mol. wt. 112,000; no.-av. mol. wt. 107,000) and 0.05 g poly(chloromethylstyrene) (wt.-av. mol. wt. 20,000) were dissolved in 8 mL xylene, coated on a Si substrate to form a 0.34- μ layer, prebaked at 100° for 30 min under N, and irradiated with an electron beam to show good sensitivity as a resist material.

IT 104521-87-1
 RL: USES (Uses)
 (electron-beam resists from poly(chloromethylated styrene) and)
 RN 104521-87-1 HCAPLUS
 CN Silane, (ethenylphenyl)trimethyl-, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 97822-60-1
 CMF C11 H16 Si
 CCI IDS



D1-CH=CH₂



IC ICM G03C001-71
 ICS G03C005-00; G03F007-00; H01L021-30
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 ST polytrialkylsilylstyrene radiation sensitive resist;
 polychloromethylstyrene radiation sensitive resist
 IT Resists
 (electron-beam, from poly(trialkylsilylstyrene) and chloromethylated styrene polymer)
 IT Resists
 (x-ray, from poly(trialkylsilylstyrene) and chloromethylated styrene polymer)
 IT 104521-87-1
 RL: USES (Uses)
 (electron-beam resists from poly(chloromethylated styrene) and)
 IT 9080-67-5
 RL: USES (Uses)
 (electron-beam resists from poly(trimethylsilylstyrene) and)
 L36 ANSWER 18 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
 1986:543409 Document No. 105:143409 Lithographic approach
 for 100 nm fabrication by focused ion beam. Matsui, Shinji; Mori, Katsumi; Saigo, Kazuhide; Shiokawa, Takao; Toyoda, Koichi; Namba,

Susumu (Fundam. Res. Lab., NEC Corp., Miyazaki, 213, Japan).
 Journal of Vacuum Science & Technology, B: Microelectronics and
 Nanometer Structures, 4(4), 845-9 (English) 1986. CODEN: JVTBD9.
 ISSN: 0734-211X.

- AB A bilevel resist process using poly(trimethylsilylstyrene-chloromethylstyrene) (I) resist as a top layer was developed for Ga⁺ focused ion beam (FIB) lithog. A 100 nm linewidth pattern with 750 nm thickness was obtained. Lithog. characteristics for 100 kV Ga⁺ FIB were studied for PMMA pos. resist and I neg. resist. The results indicate that backscattering and proximity effects are negligible and that 100 kV Ga⁺ FIB resist sensitivity is .apprx.100 times larger than that for 20 kV electron beam. Moreover, discontinuous lines, which may be caused by shot noise or by an oscillation at the end of the Taylor cone of the Ga ion source, are produced at low dose for both resists.
- IT 97822-61-2
 RL: USES (Uses)
 (lithog. bilevel resist process using, for
 gallium ion focused ion beam lithog., 100 nm linewidth
 patterns fabrications in)
- RN 97822-61-2 HCAPLUS
- CN Silane, (ethenylphenyl)trimethyl-, polymer with
 (chloromethyl)ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

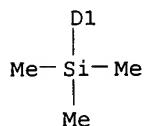
CRN 97822-60-1

CMF C11 H16 Si

CCI IDS



D1-CH=CH₂



CM 2

CRN 30030-25-2

CMF C9 H9 Cl

CCI IDS



D1-CH₂-Cl

D1-CH=CH₂

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST ion lithog trimethylsilylstyrene chloromethylstyrene polymer; resist bilevel silicon contg polymer

IT Resists

(ion beam, bilevel system with silicon-contg. polymer top layer, for gallium focused ion beam exposure)

IT Lithography

(ion-beam, using focused gallium ions, fabrication of 100 nm patterns in)

IT 15091-79-9, uses and miscellaneous

RL: USES (Uses)

(focused ion beam lithog. using, bilevel resist system for, with silicon-contg. top resist layer)

IT 9011-14-7

RL: USES (Uses)

(lithog. approach for 100 nm fabrication by focused ion beam using)

IT 81458-15-3

RL: USES (Uses)

(lithog. bilevel resist process using silicon-contg. resist as top layer and, for focused gallium ion beam exposures, fabrication of 100 nm patterns in)

IT 97822-61-2

RL: USES (Uses)

(lithog. bilevel resist process using, for gallium ion focused ion beam lithog., 100 nm linewidth patterns fabrications in)

IT 7440-21-3, uses and miscellaneous 7440-57-5, uses and miscellaneous

RL: USES (Uses)

(support, bilevel resist process using silicon-contg. resist as top layer and support from, for gallium focused ion beam lithog., fabrication of 100 nm patterns in)

L36 ANSWER 19 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN

1986:543387 Document No. 105:143387 A 2-layer resist system

derived from trimethylsilylstyrene. MacDonald, S. A.; Allen, R. D.; Clecak, N. J.; Willson, C. G.; Frechet, J. M. J. (Almaden Res. Cent., IBM, San Jose, CA, 95120-6099, USA). Proceedings of SPIE-The International Society for Optical Engineering, 631(Adv. Resist Technol. Process. 3), 28-33 (English) 1986. CODEN: PSISDG. ISSN: 0277-786X.

AB A neg. deep-UV photoresist for a bilevel resist system

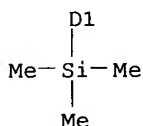
comprised an O etch plasma resistant matrix poly(trimethylsilylmethylstyrene) and a monomeric radical generator trichlorobenzene (I) or 3,3'-diazidodiphenylsulfane (II). The formation contg. 20% I was coated on a layer of diazonaphthoquinone/Novolak resist, prebaked at 100° for 5 min, imagewise exposed, spray developed using 2-butanone-EtOH mixt., rinsed in iso-PrOH, and O plasma etched.

This formulation was also sensitive to electron-beam exposures. The formulation contg. 5% II exhibited much lower sensitivity than the one contg. I.

IT 104521-87-1
 RL: USES (Uses)
 (photoresist contg., for lithog. bilevel resist system)
 RN 104521-87-1 HCAPLUS
 CN Silane, (ethenylphenyl)trimethyl-, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 97822-60-1
 CMF C11 H16 Si
 CCI IDS



D1-CH=CH₂



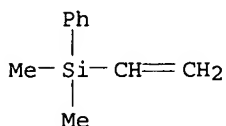
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 ST photoresist bilevel resist system lithog;
 trimethylsilylmethylstyrene polymer trichlorobenzene
 diazidodiphenylsulfone photoresist
 IT **Resists**
 (photo-, contg. poly(trimethylsilylmethylstyrene) and trichlorobenzene or diazidodiphenylsulfone, or bilevel resist system)
 IT 120-82-1 75742-13-1
 RL: USES (Uses)
 (photoresist contg. poly(trimethylsilylmethylstyrene) and, for bilevel resist system)
 IT 104521-87-1
 RL: USES (Uses)
 (photoresist contg., for lithog. bilevel resist system)
 L36 ANSWER 20 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
 1986:488686 Document No. 105:88686 Radiation-sensitive resists
 . Tanaka, Haruyori; Morita, Masao (Nippon Telegraph and Telephone Public Corp., Japan). Jpn. Kokai Tokkyo Koho JP 60212757 A2
 19851025 Showa, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1984-67487 19840406.
 AB Radiation-sensitive resists are composed of copolymers having the general formula (CH₂CHR)_m[CH₂CR₁(CO₂CH₂R₂)]_n(CH₂CHR₃)_p[CH₂CR₁(CO₂CH₂R₄)]_q [R, R₂ = SiMe₂R₅, CH₂SiMe₂R₅, CH₂CH₂SiMe₂R₅, SiMeR₅₂, SiR₅₃ (R₅ = R₆C₆H₄; R₆ = Cl, I, Br, CH₂Cl, CH₂O₂CCMe:CH₂); R₁ = H, Me; R₃, R₄ = SiMe₂Ph, CH₂SiMe₂Ph, CH₂CH₂SiMe₂Ph, SiMePh₂, SiPh₃; m, n = 0, pos. integer; m + n → 1; p, q = 0, pos.

integer]. The **resists** exhibit high sensitivity and provide high-resoln. patterns. Thus, phenyldimethylvinylsilane and (phenyldimethyl)silylmethyl methacrylate were copolymd. in the presence of BuLi, the copolymer chloromethylated by reaction with ClH₂COMe to obtain a **resist**, coated on a Si wafer, irradiated with an electron beam, and developed with a MeCOEt-2-PrOH (4:1) mixt. to give a **resist** pattern with a sensitivity (the exposure giving 50% thickness loss upon development) of 3 $\mu\text{C}/\text{cm}^2$.

IT 26744-16-1D, chlorinated or chloromethylated
 103747-33-7D, chlorinated or chloromethylated
 RL: USES (Uses)
 (electron-beam **resist**, for high-resoln. pattern formation)
 RN 26744-16-1 HCAPLUS
 CN Silane, ethenyldimethylphenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

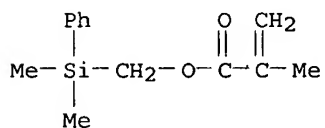
CRN 1125-26-4
 CMF C10 H14 Si



RN 103747-33-7 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, (dimethylphenylsilyl)methyl ester, polymer with ethenyldimethylphenylsilane (9CI) (CA INDEX NAME)

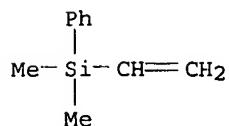
CM 1

CRN 18052-92-1
 CMF C13 H18 O2 Si



CM 2

CRN 1125-26-4
 CMF C10 H14 Si



IC ICM G03C001-71
 ICS C08F030-08; G03C001-00; G03C005-08; G03F007-10
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST radiation **resist** silylalkyl methacrylate copolymer;
electron **resist** silylalkyl methacrylate copolymer; silicon
copolymer electron **resist**

IT Vinyl compounds, polymers
RL: USES (Uses)
(polymers, silicon-contg., electron-beam **resists** from,
for high-resoln. patterns)

IT **Resists**
(electron-beam, silylalkyl methacrylate copolymers and related
copolymers as, for high-resoln. pattern formation)

IT Acrylic polymers, uses and miscellaneous
RL: USES (Uses)
(silicon-contg., electron-beam **resists** from, for
high-resoln. pattern formation)

IT 79-41-4D, reaction products with chloromethylated
phenyldimethylsilylmethyl methacrylate polymer or
poly(phenyldimethylvinylsilane) 26744-16-1D, chlorinated
or chloromethylated 71685-30-8D, chlorinated or chloromethylated
103747-33-7D, chlorinated or chloromethylated
RL: USES (Uses)
(electron-beam **resist**, for high-resoln. pattern
formation)

L36 ANSWER 21 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
1986:131059 Document No. 104:131059 Polymer composition for optical
parts and applied optical products. Eguchi, Kuniyuki; Okabe,
Yoshiaki; Tanno, Seikichi; Koyama, Toru; Takeya, Noriaki; Asano,
Hideki; Wajima, Motoyo (Hitachi, Ltd., Japan). Jpn. Kokai Tokkyo
Koho JP 60178401 A2 19850912 Showa, 7 pp. (Japanese). CODEN:
JKXXAF. APPLICATION: JP 1984-34255 19840227.

AB The title compn. consists mainly of transparent polymer contg. a
metallic element and Si. Optical parts prepd. from the compn. are
resistant to water, highly transparent, and useful for
lenses, optical conduits, and optical fibers. Thus, acrylic acid
24, hydrocinnamic acid 14, and cinnamic acid 7 parts were dissolved
in benzene contg. 25 parts 2-hydroxyethyl methacrylate and treated
with 30 parts Ba(OH)2.H2O. The monomer mixt. (40 parts) obtained by
evapn. was mixed with chlorostyrene 50, γ -
methacryloyloxypropyltrimethoxysilane 10, and dimyristyl
peroxydicarbonate 0.3 part and cured in a mold for 4 h at 60°
and 3 h at 90°. The colorless, transparent product showed
transmittance 90%, refractive index 1.568, and Abbe no. 43 and was
not affected by immersion in water at 80° for 8 h and at
40° for 15 days.

IT 101124-70-3
RL: USES (Uses)
(moldings, transparent, water-resistant, for optical
parts)

RN 101124-70-3 HCAPLUS
CN Benzenepropanoic acid, polymer with ethenyldimethylphenylsilane,
ethenylmethylbenzene, 2-hydroxyethyl 2-methyl-2-propenoate,
3-phenyl-2-propenoic acid and 2-propenoic acid, barium salt (9CI)
(CA INDEX NAME)

CM 1

CRN 101124-69-0
CMF (C10 H14 Si C9 H10 O2 . C9 H10 . C9 H8 O2 . C6 H10 O3 . C3 H4
O2)x
CCI PMS

CM 2

CRN 25013-15-4
CMF C9 H10

CCI IDS

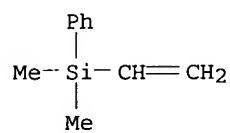


D1-Me

D1-CH=CH₂

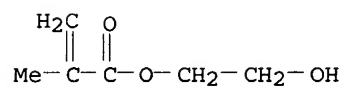
CM 3

CRN 1125-26-4
CMF C10 H14 Si



CM 4

CRN 868-77-9
CMF C6 H10 O3



CM 5

CRN 621-82-9
CMF C9 H8 O2

Ph-CH=CH-CO₂H

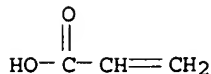
CM 6

CRN 501-52-0
CMF C9 H10 O2

Ph-CH₂-CH₂-CO₂H

CM 7

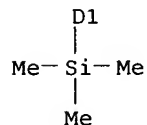
CRN 79-10-7
CMF C3 H4 O2



IC ICM G02B001-04
ICS C08F030-08; G02B006-10
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 40
ST cinnamic acid polymer optical; optical polymer metal silicon;
acrylic optical polymer; acrylic acid polymer transparency; water
resistance acrylic polymer
IT Fiber optics
(acrylic polymers contg. silyl groups and metal compds.,
transparent, water-resistant)
IT Lenses
Optical materials
(acrylic polymers contg. silyl groups and metal compds., water-
resistant)
IT 101124-68-9 101124-70-3 101124-72-5 101124-74-7
101124-76-9 101150-88-3
RL: USES (Uses)
(moldings, transparent, water-resistant, for optical
parts),
L36 ANSWER 22 OF 22 HCAPLUS COPYRIGHT 2005 ACS on STN
1985:496218 Document No. 103:96218 Silicon-containing resists
for bi-layer resist systems. Ohnishi, Y.; Suzuki, M.;
Saigo, K.; Saotome, Y.; Gokan, H. (Fundam. Res. Lab., NEC Corp.,
Kawasaki, 213, Japan). Proceedings of SPIE-The International
Society for Optical Engineering, 539(Adv. Resist Technol. Processing
2), 62-9 (English) 1985. CODEN: PSISDG. ISSN: 0277-786X.
AB Several kinds of Si-contg. resist materials for bilayer
resist systems were developed. For neg.-working
resists, poly(trimethylsilylstyrene-co-chloromethylstyrene)
(I) and a mixt. of poly(triallylphenylsilane) with bisazide were
developed. I was designed for electron-beam or deep-UV exposure.
For pos.-working resists a partly trimethylsilylmethylated
resorcinol-HCHO resin mixed with naphthoquinonediazide was
developed. Prepn., lithog. data, and applications to
bilayer systems of these resists are reported.
IT 97822-61-2
RL: USES (Uses)
(resist, for bilayer system, lithog.,
characteristics and prepn. of)
RN 97822-61-2 HCAPLUS
CN Silane, (ethenylphenyl)trimethyl-, polymer with
(chloromethyl)ethenylbenzene (9CI) (CA INDEX NAME)
CM 1
CRN 97822-60-1
CMF C11 H16 Si
CCI IDS



D1-CH=CH₂



CM 2

CRN 30030-25-2

CMF C9 H9 Cl

CCI IDS



D1-CH₂-Cl

D1-CH=CH₂

- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST silyl group bilayer **resist lithog**; silylstyrene copolymer **lithog resist**
- IT **Resists**
(silicon-contg., for bilayer systems, prepn. and lithog characteristics of)
- IT 81458-15-3
RL: USES (Uses)
(bilayer **resist** system contg. silicon-contg. **resist** and)
- IT 95797-43-6
RL: USES (Uses)
(**resist** contg. bisazide and, for bilayer system, prepn. and lithog. characteristics of)
- IT 24969-11-7D, trimethylsilylmethylated
RL: USES (Uses)
(**resist** from naphthoquinonediazide and, for bilayer system, prepn. and characteristics of)
- IT 53208-22-3
RL: USES (Uses)
(**resist** from partially trimethylsilylmethylated resorcinol-formaldehyde resin contg., for bilayer system, prepn. and characteristics of)
- IT 96361-45-4 97822-61-2
RL: USES (Uses)

(resist, for bilayer system, lithog.
characteristics and prepn. of)

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